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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,358	02/06/2004	Hyun Shik Cho	1630-0136P	5044
2292	7590	08/10/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			GUHARAY, KARABI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/772,358

Applicant(s)

CHO ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 8-11 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/5/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

Figure 1, Fig 2a, Fig 3 and Fig 4a should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Fig 1 is further objected to having different numbers for various parts, which do not correspond to the specification page 1 describing various elements of Fig 1.

In Fig 6, "Ts" is not pointing the place as defined in specification, page 11.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37

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CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Deflection axis X, deflection center C should be shown in Fig 2a or Fig 2b. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

On page 4,

(1) [0015] ---plane RL should be changed to RL (26) in accordance with drawings.

(2) [0017] --- "Fig 2" should be changed to "Fig 2b",
[0019] ----'exsample" should be changed to "example".

Appropriate corrections are required.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 2 recites that the projection provides a sealing portion of the body portion and the yoke portion of the funnel together. This is not described clearly in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 & 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Swank et al. (US 5155411).

Regarding claim 1, Swank et al. disclose a cathode ray tube (Fig 1) comprising a panel (faceplate panel 12) having phosphor screen (22) on the inner surface thereof, a funnel 15 joined to the panel 12 and having a body portion, a yoke portion (32 of Fig 2) and a neck portion 14, an electron gun 26 mounted to the neck portion of the funnel wherein a projection (42) is provided between a seal line (21) and the neck portion of the funnel (lines 12-44 of column 2).

Regarding claim 2, Swank discloses that the projection 42 provides a sealing portion of the body and the yoke portion of the funnel, since it is located in that region (Fig 1).

Regarding claim 3, Swank discloses that a maximum thickness and a minimum thickness of the projection is about 2 (see Fig 2 & Fig 3), this satisfies the equation of claim 3.

Regarding claim 4, Swank et al. disclose that the thickness of the projection is greater than the thickness of the body portion 15 (see Fig 3).

Regarding claims 5 & 6, Swank et al. disclose that the both sides (46, 52) of the projection 42 have stairs (step) having curvature (see Fig 2 & Fig 3).

Regarding claim 12, Swank et al. disclose that a deflection angle of the electron beams is no less than or equal to 100 degrees (see Lines 15-18 of column 1).

Regarding claims 13 & 14, Swank discloses that a cross section of the neck portion 14 is shaped non-circular (see Fig 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swank et al. as applied to claim 1 above, further in view of Sugawara et al. (US2002/0185959).

Regarding claim 7 Swank et al. discloses all the limitations of claim 7 except for the thickness of the funnel except for the projection becomes gradually greater from the neck portion to the seal line plane.

However, Sugawara et al. teach that for a flat panel CRT, panel thickness is much greater at the periphery where it is joined to the funnel compared to the thickness of the panel at the center of the panel, and in order to reduce the thermal stress developed for this thickness variation funnel thickness is much greater near the seal line and gradually decreases near the neck of the funnel to make the CRT light weight (see Fig 1, see paragraph 0012-0015), such structure of panel and funnel produces flat screen while reduces thermal stress to prevent fracture while making the funnel thinner.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the thickness of the funnel as discloses by Sugawara et al. in the device of Swank et al. since this will provide a flat CRT having reduced thermal stress in glass envelope of the CRT.

Allowable Subject Matter

Claims 8-11 & 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, the prior art of record neither shows nor suggests a CRT having panel an the funnel satisfy $USD/PT \geq 2.5$, wherein USD is a diagonal length of

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an effective screen of the panel and PT is a distance between a central point of an inner surface of the panel and the yoke line plane, together with other cited limitations of claim 1.

Regarding claim 15, the prior art of record neither shows nor suggests a CRT comprising the limitations cited in claim 15.

Other Prior Art Cited

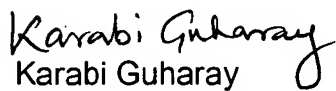
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure : Fujuhara et al. (US 6819039).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karabi Guharay
Primary Examiner
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